

Draft Environmental Assessment
Mount Jumbo Wildlife Management Area
Forest Habitat Restoration Project

July 2020



Region 2
3202 Spurgin Road, Missoula, MT 59804

PROJECT OVERVIEW

Proposal

Montana Fish, Wildlife & Parks (FWP) proposes to conduct forested habitat restoration treatments on 100 acres of forest land on the Mount Jumbo Wildlife Management Area (MJWMA), northeast of Missoula in Missoula County (Figures 1, 2, 3). The objectives of the proposed treatments are to: increase forage potential on elk and deer winter range, promote stand conditions that would allow fire to burn at low-severity appropriate for the habitat type, and reduce fuel loading in the wildland urban interface. The treatments would involve the removal of conifer trees (both merchantable and submerchantable) through a combination of mechanical and non-mechanical treatments. Please see **Narrative Summary** (section 8, below), for a detailed description of the proposed action. If approved by the Montana Fish and Wildlife Commission, the work could begin as early as October 2020. The purpose of this project is to improve wildlife habitat; this project would not be proposed if not for a need to conserve and improve wildlife habitat on the WMA.

FWP is coordinating this project with the Missoula Ranger District of the Lolo National Forest (LNF), which is implementing similar treatments on its ongoing Marshall Woods Project on adjacent National Forest System Lands. Similar treatments are also being planned on adjacent City of Missoula land. The proposed treatments on the MJWMA compliment these projects by reducing hazardous fuels at a larger scale as well as increasing forage potential on deer and elk winter-range.

Area Description

The Mount Jumbo WMA is located immediately northeast of Missoula, MT in Missoula County. The project lies on the north end of Mount Jumbo between Rattlesnake and Marshall creeks. The nearest communities are East Missoula and Missoula.

The Mount Jumbo WMA was created with the acquisition of two separate parcels totaling approximately 118.78 acres in July 1996. The purchase of the WMA was part of a larger partnership with the City of Missoula, Five Valleys Land Trust, US Forest Service (LNF), and Rocky Mountain Elk Foundation that protected approximately 2,000 acres in the Missoula urban interface consisting of several purchases that occurred during 1996-97. The complex was recognized for its natural values as conservation land, visual importance, and recreational opportunities, but one of the main objectives and rallying points was to protect critical winter range for the Mount Jumbo elk herd which consists of approximately 70-90 elk that migrate to the lower elevation hillsides of Mount Jumbo every year. Mount Jumbo also provides winter range for mule deer and white-tailed deer, some of which use the area year-round. The habitat on the WMA is characterized by primarily dry, mixed-conifer forest dominated by ponderosa pine and Douglas-fir with interspersed grassland openings characterized by bluebunch wheatgrass, Idaho and rough fescues, and a variety of forbs, shrubs, and graminoids.

The Mount Jumbo WMA is heavily used by recreationists during the spring, summer and fall: hikers, mountain bikers, and dog walkers use the WMA and surrounding lands via a trail complex that connects the WMA to neighboring City and LNF lands. However, the larger Mount Jumbo complex is closed during the winter months to protect the Mount Jumbo elk herd. The South Zone is closed from December 1 to March 15, and the North Zone, which includes the WMA, is closed from December 1 to May 1 (Figure 4) although the opening dates often get pushed back in years with harder winters. Elk use the South Zone during the most severe times of winter and early spring as this area is the first to green up. When the South Zone opens, the elk typically transition to the North Zone and remain until May 1 by which time forage is greening up at higher elevations. MJWMA is surrounded by neighboring public properties where either no hunting (City lands) or no firearms use are allowed (due to safety issues from high human use); therefore, MJWMA is open to archery hunting but closed to rifle hunting.

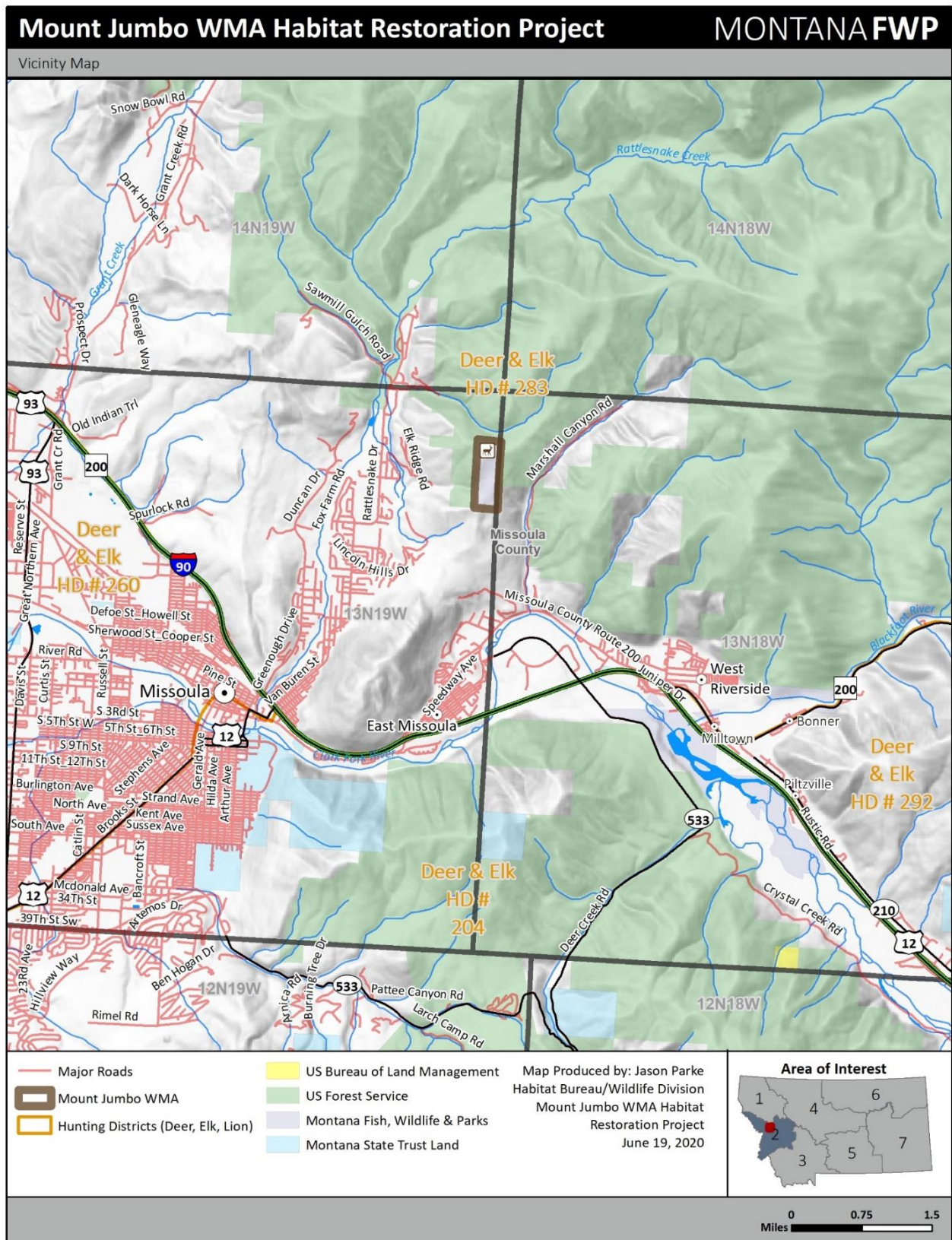


Figure 1. Mount Jumbo Wildlife Management Area and vicinity.

Mount Jumbo WMA Habitat Restoration Project

MONTANA FWP

Vicinity Map - 2015 Aerial Imagery



Figure 2. Aerial view of Mount Jumbo Wildlife Management Area and vicinity.

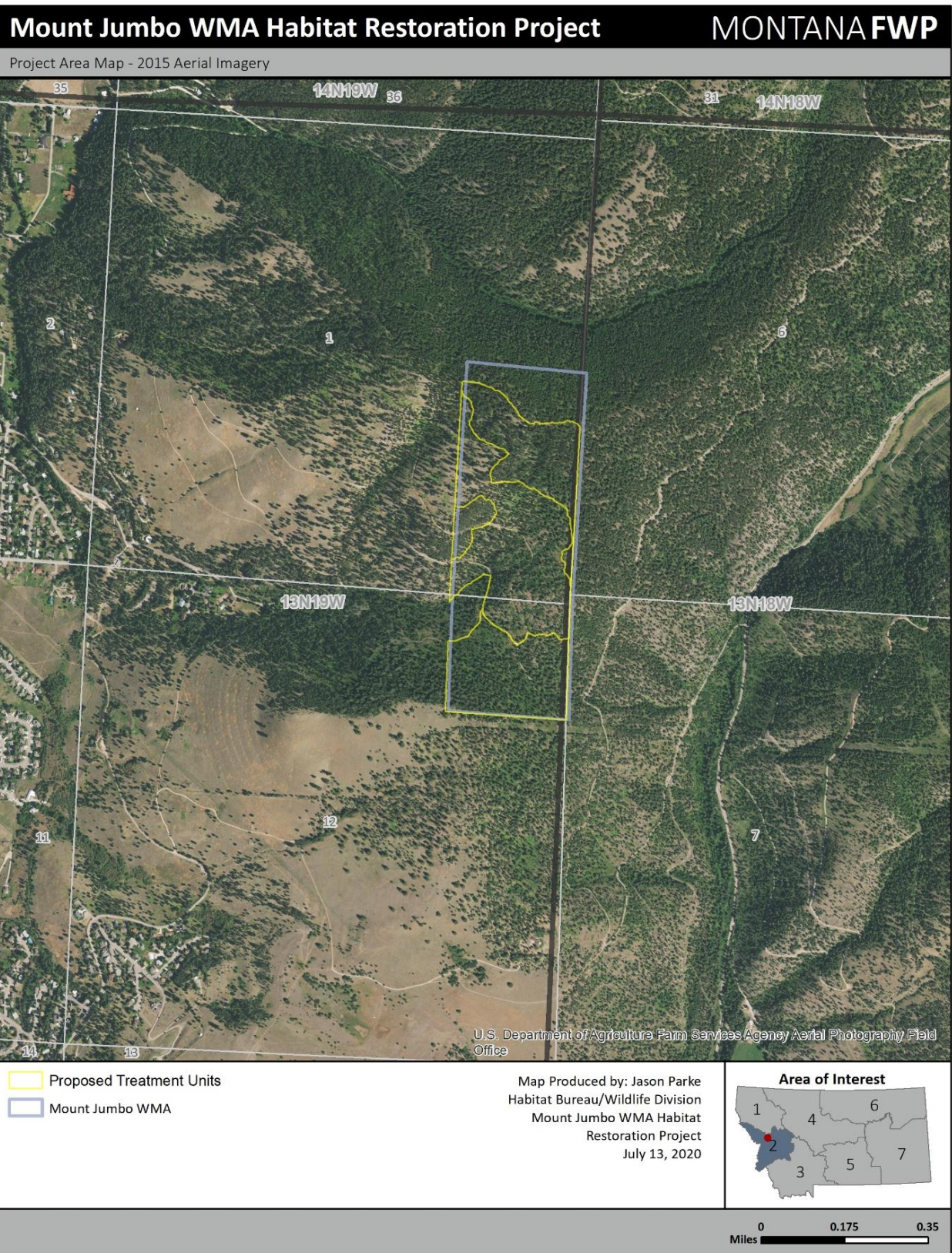


Figure 3. Mount Jumbo WMA proposed treatment areas (outlined in yellow line).

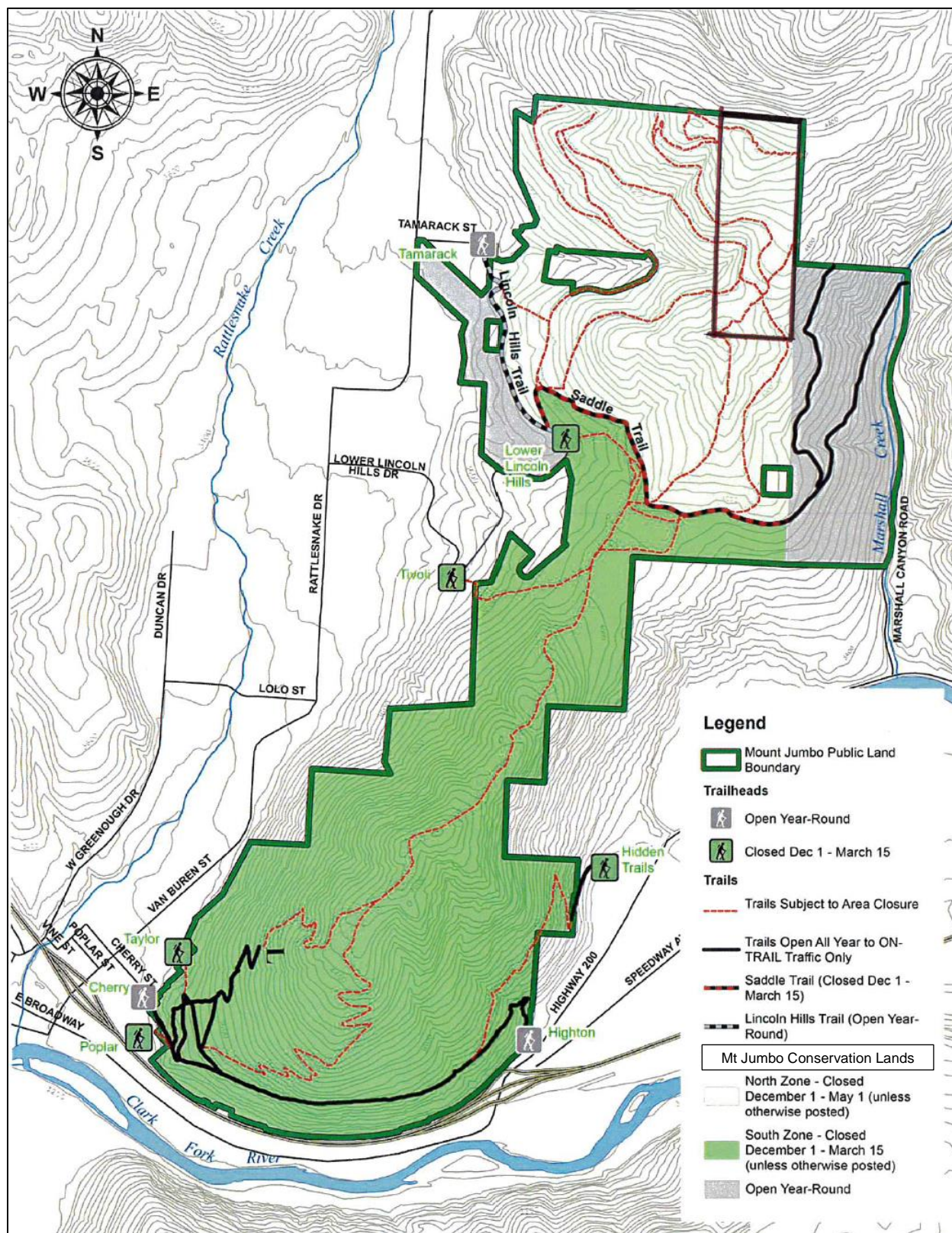


Figure 4. Recreational trails and winter closures on Mount Jumbo WMA and surrounding complex. (MJWMA is outlined in black in upper-right corner of map.)

Black bear, mountain lion, red fox, bobcat, and coyote are common predators on Mount Jumbo. Wolves occasionally move through, and grizzly bears can be found at higher elevations in the nearby Rattlesnake National Wilderness. There is a diversity of small mammals including snowshoe hares, ground squirrels, tree squirrels, chipmunks, voles, and mice. Ruffed and dusky grouse are common, and there are over 100 other bird species that use the area including pileated woodpecker, evening grosbeak, and flammulated owl.

Ecological Setting

The current forest conditions on MJWMA are a result of past timber management, fire exclusion, and forest succession. Fire atlas data going back to 1889 show several large-scale fires occurred in the Rattlesnake and Marshall creeks drainages in first half of the 20th century; however, none of the fires appear to overlap with the MJWMA. Extensive timber harvest in the late 19th through early 20th centuries removed much of the mature timber in the area. Remnant trees and trees that regenerated from this early harvest form the overstory trees that are present today. The previous landowner conducted a more recent timber harvest in 1995, which appears to have occurred mainly on the southern half of MJWMA. This more recent harvest appears to have removed the suppressed and low-vigor trees at the time and left behind the larger trees, which remain in mostly good health and vigor today. The recent harvest also created openings and adequate scarification of the ground which gave rise to dense patches of natural regeneration. Many areas that were harvested 25 years ago are now densely stocked with 20-foot tall Douglas-fir and ponderosa pine sapling-sized trees. The southern half of the WMA could be described as a two-aged stand with an overstory composed of approximately 100-year old ponderosa pine and Douglas-fir and an understory cohort composed primarily of 25-year old Douglas-fir (Figure 5).



Figure 5. Typical two-aged stand structure on the southern half of the MJWMA.

Areas not thinned in the mid-90s are also two-aged but with a higher stocking of overstory trees and lower stocking of understory trees (Figure 6). The species composition of the overstory varies by aspect and is dominated by ponderosa pine on southwest to southeast aspects. Douglas-fir composition is typically greater than ponderosa pine on northwest to northeast aspects and western larch is also present. The understory is dominated by Douglas-fir on all aspects. Insects and disease effects are currently minimal. Douglas-fir mistletoe is present at low levels. Spruce budworm has led to some defoliation of Douglas-fir; the greatest effect has been to understory trees.

Douglas-fir tussock moth (DFTM) (*Orgyia pseudotsugata*) was observed near Mount Jumbo during combined LNF and Montana Department of Natural Resources and Conservation (DNRC) surveys in 2019 and on Mount Jumbo in July 2020, but it has not been specifically observed on the MJWMA. The larvae of DFTM primarily feed on Douglas-fir, grand fir, and subalpine fir. Heavy defoliation can occur on “hotspots” resulting in top kill and tree mortality, usually in areas up to 100 acres in size. Mature trees are more likely to survive, even if heavily defoliated; however young trees are less likely to recover if defoliation occurs for several years. Outbreaks are cyclical, occurring about every 8 to 10 years and typically last 2 to 3 years then collapse due to nuclear polyhedrosis virus.



Figure 6. Typical stand structure on the northern half of the MJWMA.

The predominant habitat type on the MJWMA is Douglas-fir/pinegrass (Pfister et al. 1977) which falls into Fire Group 4--Warm, dry Douglas-fir habitat types (Fischer and Bradley 1987). Historically, fire frequency ranged between 5 and 50 years, and fire severity was typically low to moderate. This predominant fire disturbance cycle maintained open stands dominated by mature ponderosa pine. The combination of

historic timber harvest and fire exclusion has resulted in a shift of species composition and structure. The areas thinned in the most recent timber harvest 25 years ago have an overstory structure that is similar to what would have been common under a natural fire-disturbance cycle; however, the understory density is much higher than what would have been typical. Areas not thinned recently have a relatively high-density of overstory trees, and Douglas-fir is more represented than it would have been historically. Overall, there is a higher stocking of trees across the MJWMA, which has led to decreased coverage of grasses, shrubs, and forbs. Dense sapling-sized trees create a "fuel-ladder," which has the potential to kill overstory trees in the event of a wildfire. If left unchecked, forest succession could negatively impact winter range habitat for big game and habitat for a variety of wildlife species that depend on more open conditions. As fuels continue to build up, the susceptibility of the area to stand-replacement fire would increase, which is atypical for the habitat type.

Draft Environmental Assessment MEPA, MCA 23-1-110 CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. Type of proposed state action:

Montana Fish, Wildlife & Parks (FWP) proposes to conduct habitat restoration treatments on approximately 100 acres of forest land on the Mount Jumbo Wildlife Management Area (MJWMA), northwest of Missoula in Missoula County (Figures 1, 2, 3). The objectives of the proposed habitat restoration treatments are to increase forage potential on elk and deer winter range, promote stand conditions that would allow fire to burn at low-severity appropriate for the habitat type, and reduce fuel loading in the wildland urban interface. The treatments would involve the removal of conifer trees (both merchantable and submerchantable) through a combination of mechanical and non-mechanical treatments. A detailed description of the proposed action is in **Narrative Summary** (section 8, below).

2. Agency authority for the proposed action:

FWP is authorized by law to own and manage lands as wildlife habitat. The land subject to this proposal is included in the Mount Jumbo WMA, which was originally purchased in 1996. FWP uses budgeted license revenues and Pittman-Robertson matching funds, within spending authority granted each biennium by the Montana legislature, for maintenance of the MJWMA. FWP is authorized to use supplemental funds from various public and private sources, which may be awarded under specific conditions for individual maintenance and enhancement projects on the MJWMA and other properties. The Montana Fish and Wildlife Commission endorsed this proposal in June 2020, allowing FWP to proceed with further development and analysis of this proposed action, including completion of this Environmental Assessment.

87-1-201(9)(a)(iv) and 87-1-621, Montana Code Annotated (MCA)

FWP is required to implement programs that address fire mitigation, pine beetle infestation, and wildlife habitat enhancement giving priority to forested lands in excess of 50 contiguous acres in any state park, fishing access site, or wildlife management area under the department's jurisdiction. The Montana Legislature has provided FWP the means to accrue revenue from forest management activities and spend them to fund further management projects on its forested lands.

Montana Fish, Wildlife & Parks Forest Management Plan¹ (2018)

The Montana Fish, Wildlife & Parks Forest Management Plan directs FWP to manage for desired habitat conditions and public use opportunities while maintaining the ecological integrity of forests. The plan provides a framework for developing desired future conditions (DFCs), identifies mechanical and non-mechanical treatments as management tools to achieve DFCs, and establishes guidelines for implementing forestry treatments on FWP forested lands.

The Montana Statewide Elk Management Plan² (2005)

The Montana Statewide Elk Plan directs FWP to improve elk habitat through projects designed to improve vegetative diversity and to maintain or increase carrying capacity on winter range. This proposed project would work toward meeting this goal by increasing recruitment of forage and browse species.

¹ Available upon request from R2 FWP (Missoula) or FWP Wildlife (Helena) office.

² Available on FWP's website at <http://fwp.mt.gov/fishAndWildlife/management/elk/default.html> accessed 21 July 2020.

Montana's State Wildlife Action Plan (SWAP) (MFWP 2015)

The Mount Jumbo WMA is not included in any focal areas under the SWAP. However, the WMA consists of the following Community Types: Deciduous Shrubland (<10% of WMA), Montane Grassland (~10% of WMA) and Conifer-dominated Forest and Woodland (Xeric-Mesic; ~80% of WMA). Threats to these habitat types include conifer encroachment, invasive weeds, replacement of ponderosa pine by Douglas-fir, and uncharacteristically high tree densities in forested habitats due to fire suppression.

Many nongame species listed as priority species under the SWAP are associated with these priority habitats found on MJWMA, and therefore are relevant to the management of the WMA. Priority species include Cassin's finch, evening grosbeak, pileated woodpecker, brown creeper, rufous hummingbird, northern goshawk, golden eagle, Clark's nutcracker, Lewis's woodpecker, and flammulated owl.

Forest management activities are unlikely to significantly negatively impact these priority species in the long-term, and many of the proposed forest management actions will likely have a net benefit for these species. Thinning of over-crowded conifers will improve grass, forb, and shrub growth that will likely benefit Cassin's finch, rufous hummingbird, and evening grosbeak. Retention of large-diameter trees and promotion of increased vigor through thinning may benefit pileated woodpecker, brown creeper, golden eagle (hunting and nesting), flammulated owl, and bats. Retention of snags will be important for woodpeckers, flammulated owl, and bats.

3. Name of project: Mount Jumbo Wildlife Management Area Forest Habitat Restoration Project

4. Anticipated Schedule:

Decision Notice issued for this EA: early September 2020

Fish & Wildlife Commission consideration for project approval: 10-22-2020

Estimated Commencement Date: late October 2020

Estimated Completion Date: Logging 3-1-2021; additional treatments may extend through 12-31-2030

Current Status of Project Design (% complete): 20%

5. Location affected by proposed action (county, range and township):

Missoula County

Township 13 North, Range 19 West, Sections 1 E2 SE4 and 12 NE4 NE4.

Project is located within the Mount Jumbo Wildlife Management Area (Figures 1, 2, 3)

6. Project size -- estimate the number of acres that would be directly affected that are currently:

Land Type	Affected Area (estimated in acres)	Total (acres)
(a) Developed:		
Residential	0	
Industrial	0	0
(b) Open Space/ Woodlands/ Recreation		0
(c) Wetlands/ Riparian Areas		0
(d) Floodplain		0
(e) Productive:		
Irrigated Cropland	0	
Dry Cropland	0	
Forestry	100	100
Rangeland	0	
Other	0	
Total		100

7. Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction.

(a) Permits:

Agency Name	Permits
City of Missoula	Temporary Road Use Permit
US Forest Service	Temporary Road Use Permit

(b) Funding:

Agency Name: Montana Fish, Wildlife & Parks

Funding Amount: Costs to FWP for these forest habitat restoration treatments are expected to be partially offset by the sale of merchantable timber byproduct. FWP's appraisal of timber values, logging costs, and follow-up treatments resulted in an estimated cost of \$50,000. The actual cost will depend on the value of logs at the time of contract advertisement and other factors that vary over time. FWP would also pursue grant funding through various sources.

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

Lolo National Forest: Wildland fire protection

Missoula County Weed District: Noxious weed control

State Historic Preservation Office (SHPO): Cultural and historic resources

8. Narrative summary of the proposed action or project including the benefits and purpose of the proposed action:

FWP is proposing to conduct forest habitat restoration treatments on approximately 100 acres on the MJWMA for the purpose of:

- Increasing forage potential on elk and deer winter range,
- promoting stand conditions that would allow fire to burn at low-severity appropriate for the habitat type, and
- reducing fuel loading in the wildland urban interface

Forest habitat restoration treatments are expected to benefit:

- elk and deer winter-range foraging potential,
- dusky grouse breeding habitat,
- a variety of nongame wildlife including Species of Concern (SWAP; MFWP 2015) that are dependent on old-growth ponderosa pine stands,
- fire suppression efforts in the event of a wildfire,
- the local timber industry, and
- compatible public use opportunities.

Forest habitat restoration treatments include 100 acres of variable density thinning (a combination of overstory and understory thinning) and prescribed burning. The treatments would include the following activities:

- mechanized removal of merchantable and submerchantable trees by logging (synonymous with timber harvest), log hauling, mastication/grinding, and/or machine piling;

- non-mechanized removal of merchantable and submerchantable trees by hand cutting, girdling, lop and scatter, and/or hand-piling;
- prescribed burning and related activities (including fireline construction, pile burning, jackpot burning, broadcast burning, and/or mop-up);
- Minor site improvements of existing roads/trails such as constructing water bars to reduce erosion and sediment transport;
- rehabilitation of disturbed areas such as grass seeding bare soils and burn piles, fireline rehab, blocking firelines and skid trails to prevent hiking/biking trail pioneering; and
- noxious weed control (i.e. chemical, biological, hand pulling, digging, and/or cutting treatments).

Under this alternative, FWP would hire contractors and/or work with other agencies (such as the US Forest Service) to perform tree removal, prescribed burning, and rehabilitation activities. FWP would designate trees for removal based on the stand prescription by marking with tree paint and by contract specifications.

Tree removal would be accomplished through a combination of mechanized and nonmechanized methods. Merchantable trees would be treated with ground-based logging equipment, such as feller-bunchers and skidders, that would cut and skid trees to designated roadside locations (called "landings"). Tree stems would be delimbed and processed into logs. Logs would be loaded onto log trucks and hauled to local forest product manufacturing facilities. An estimated 10 truckloads of logs would be generated from this project (equating to roughly 270 tons or 36-thousand board feet). Submerchantable trees (trees too small to be manufactured into forest products) would be treated by cut, skid, pile and burn; mastication; girdling; and/or felling with chainsaws. Slash (the nonmerchantable limbs and treetops) and cull material generated from this process would be treated either by piling and burning, grinding or chipping, and/or removing the material from the site.

Ground disturbance is expected on skid trails and at landing areas. Any ground disturbance (exposed, displaced, or compacted soils) would be rehabbed and seeded with a native grass seed mix. Contractors hired to do this work would be required to adhere to Montana Forestry Best Management Practices (BMPs). FWP would develop a site-specific operating plan with contractors hired to do this work. This plan would identify resource protection measures to minimize impacts to the site. FWP would oversee the activities while they are ongoing to ensure compliance with the plan and to minimize resource impacts.

Access to the project area would be from existing roads and designated skid trails. FWP would pursue road use agreements with the US Forest Service and City of Missoula to access the project area. See the project map (Figure 7) for locations of the proposed haul route and skid trails. FWP is proposing to skid merchantable trees through the MJWMA and through a Forest Service timber harvest unit (in Section 6, T13N, R18) located to the east of the MJWMA to Forest Road (FR) 2122. Trees would be processed into logs, decked, and loaded on FR 2122 and hauled down the Marshall Canyon Road to Montana Highway 200.

FWP is planning to coordinate the logging portion of this project with the adjacent timber harvest on Forest Service land (Section 6 T13N R18W). The operating period for logging and log hauling is expected to be from late October 2020 through March 1, 2021. Ground-based logging equipment would be required to operate under relatively dry, frozen, or snow-covered conditions in order to minimize impacts to soil and vegetation. Following completion of the logging portion of the project, FWP would require the contractor to lop and scatter damaged submerchantable trees (less than 5 inches DBH [diameter at breast height]) within 100 feet of existing roads and trails as well as clearing slash and debris from trails and roads. Bare soils on skid trails would also be grass seeded.

Mt Jumbo WMA Habitat Restoration Project

MONTANA FWP

Project Map

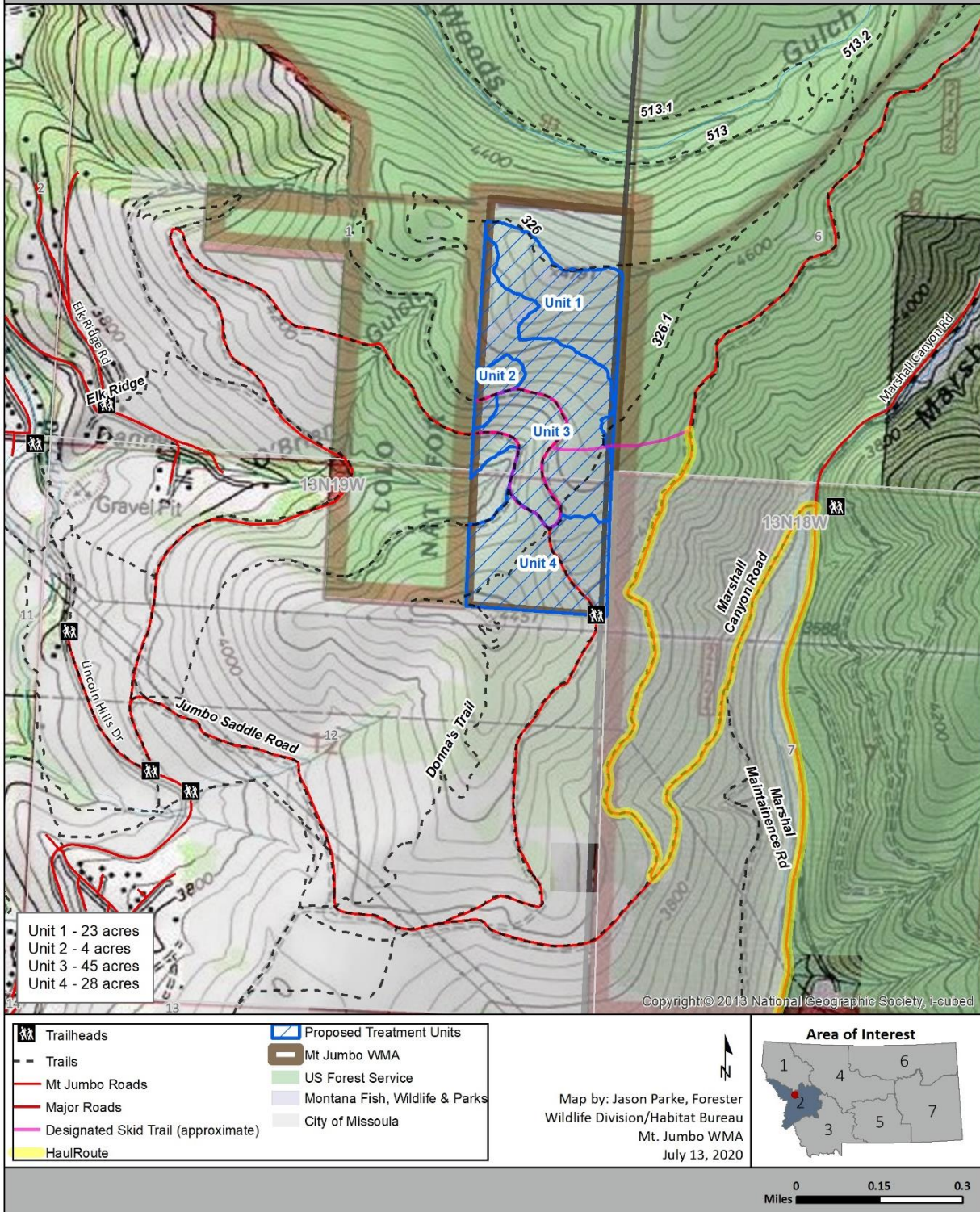


Figure 7. Proposed haul route and skid trails for the proposed Mount Jumbo WMA forest habitat restoration project.

The non-logging portion of the project could potentially occur throughout the year. Thinning submerchantable trees (synonymous with precommercial thinning), girdling, mastication, lop and scatter, pile and burn, and prescribed burning treatments would be contracted separately from the logging contract. These activities would occur prior to periods of high bird-nesting activity (before April 15) or after high bird-nesting activity (after July 1). Slash and debris would be removed from trails and roads concurrent with felling operations. If slash is piled and burned, burn piles would be located in openings away from residual trees. Burning would be conducted in accordance with Airshed 3a smoke management restrictions, open burning seasons, and applicable state and local regulations. Herbicide treatments would be conducted in the spring or early-summer (May through July) or fall (September through November) depending on the weed species to be treated and in accordance with label requirements.

Logging activities would comply with Montana Forestry Best Management Practices and the Montana Streamside Management Zone law (no streams were identified during unit reconnaissance). To minimize the spread of noxious weeds, all project equipment would be cleaned and inspected by FWP before moving onto FWP lands. Exposed bare mineral soils would be reseeded immediately to discourage weed establishment. Noxious weed establishment and spread would be monitored and managed through site-specific treatments following ground-disturbing activities as well as through ongoing annual WMA weed management efforts.

Broadcast burning may be used to reduce fuel loading and to benefit fire-adapted grasses, forbs, and shrubs. Further evaluations of the proposed treatment units for suitability, feasibility, and risk of broadcast burning would be conducted following mechanical treatments and burn plans would be developed in conjunction with the US Forest Service (LNF, agency responsible for fire protection on the WMA), Montana DNRC, and/or with qualified contractors prior to implementing burns.

Unit Prescriptions (see Figure 8 and Table 1)

Unit 1. Combination overstory thinning/precommercial thinning:

- Suppressed overstory trees (greater than 5 inches DBH) would be removed around dominant/co-dominant overstory trees. Crown health would be the primary consideration for removal. Trees with thinning crowns and low crown ratios (less than 30% live crown) would be removed to favor trees with dense crowns and higher crown ratios. Ponderosa pine would be favored to leave over Douglas-fir. Overstory trees would be retained in a clumpy, variable pattern to maintain the natural character of the stand. The average density would be approximately 70 basal area per acre (BA), within higher retention in draws and easterly aspects and lower retention on westerly aspects. Snags; trees with visible nesting cavities; and trees with dead, deformed, or multiple tops would be retained for their value as wildlife trees.
- Understory trees (less than 5 inches DBH) would be removed below the dripline of overstory trees and would be thinned to a variable spacing in canopy gaps. Ponderosa pine would be favored over Douglas-fir. In general, the largest trees (greatest DBH, tallest) with the highest crown ratio would be retained and relatively smaller trees with lower crown ratios would be cut. The average density would be approximately 75 trees per acre with higher retention in draws and easterly aspects and lower retention on westerly aspects.

Mt Jumbo WMA Habitat Restoration Project

MONTANA FWP

Project Map

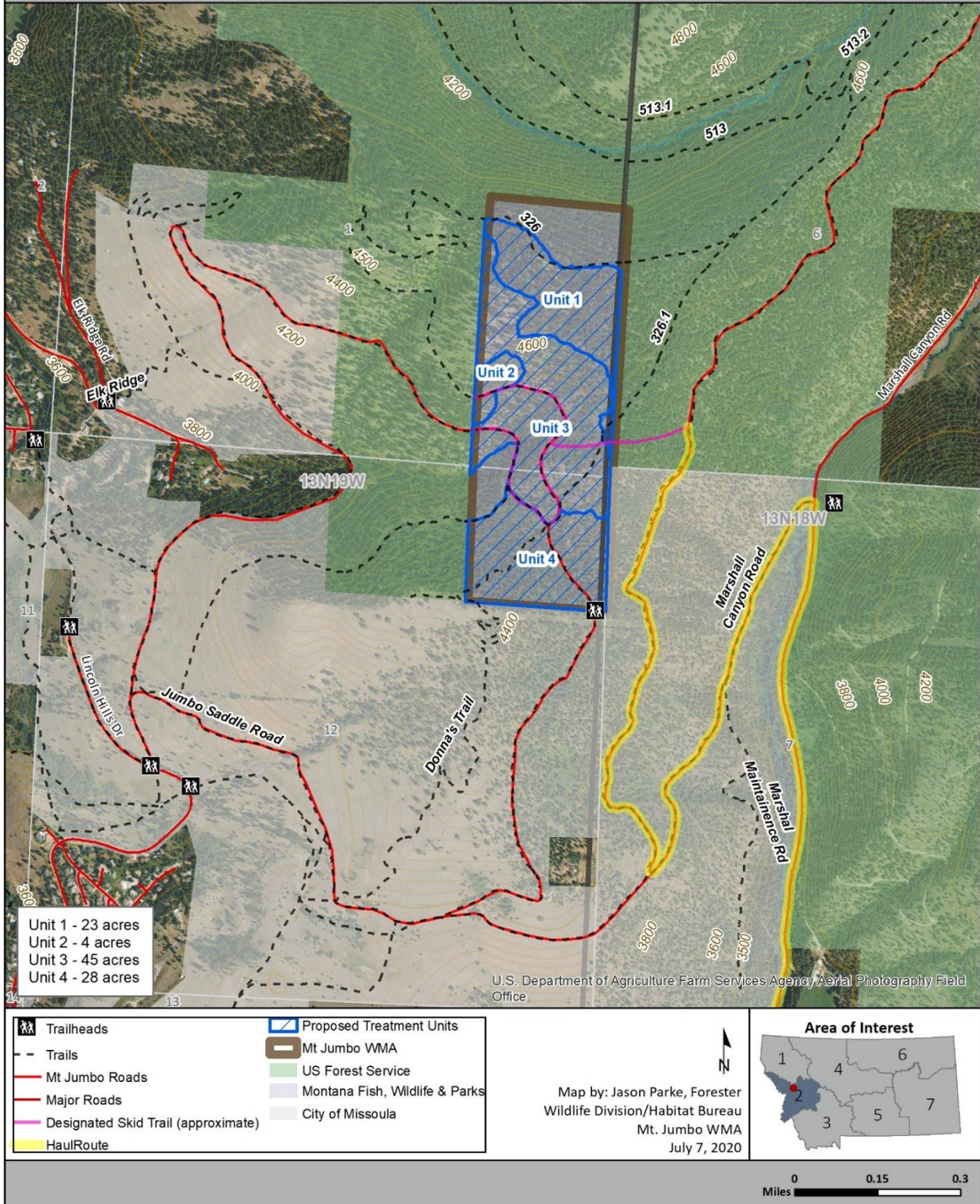


Figure 8. Treatment units for the proposed Mount Jumbo WMA forest habitat restoration project.

Table 1. Summary of proposed treatments for the Mount Jumbo WMA Forest Habitat Restoration Project.

Treatment Table							
Unit	Acres	Treatment 1	Operating Period; Duration	Treatment 2	Operating Period; Duration	Treatment 3	Operating Period; Duration
1	23	Timber Harvest	10/23/20 – 3/1/21; 1.5 weeks	Pre-commercial thin	April 1 – December 1; 1.5 weeks	Burn	April 1 – December 1; 2-3 days
2	4	Timber Harvest	10/23/20 – 3/1/21; 0.5 week	Pre-commercial thin	April 1 – December 1; 1 day	Burn	April 1 – December 1; 2 days
3	45	Pre-commercial thin	April 1 – December 1; 2 weeks	Burn	April 1 – December 1; 4-5 days		
4	28	Pre-commercial thin	April 1 – December 1; 1.5 weeks	Burn	April 1 – December 1; 2-3 days		
Rehabilitation / Follow-up Activities							
Activity		Unit/Area		Operating Period & Duration			
Slashing logging-damaged submerchantable trees		Units 1 and 2 w/in 100' of roads and trails		Concurrent with timber harvesting first spring following completion; 1-2 days			
Grass seeding		Units 1 and 2 on bare soils created from logging		Concurrent with timber harvesting or first spring following completion; 0.5 days			
Skid trail rehab and clearing trails		Units 1 and 2 and designated skid trails		Concurrent with timber harvesting or first spring following completion; 1 day			
Slash pile burning (landings)		Log landings along FR 2122		Fall 2021 and in accordance with state and local burning restrictions; 2-3 days			
Slash pile rehab – scarification and seeding (landings)		Log landings along FR 2122		First spring or fall following slash pile burning; 1 day			
Slash pile burning (in-woods piles, if piled)		Units 1 – 4		Approximately 1 year following pile construction, spring or fall burning season and in accordance with state and local burning restrictions; 2-3 days			
Slash pile rehab – scarification and seeding (in-woods, if needed)		Units 1 – 4		First spring or fall following slash pile burning; 1 day			
Fireline construction		Units 1 – 4 boundaries		April 1 – December 1, prior to broadcast burning units; 1 week			
Fireline rehab		Unit 1 – 4 boundaries		Concurrent with mop-up or first operating season following completion of burn; 2 days			
Weed Treatments		Units 1 – 4, designated skid trails, access roads		April 1 – December 1, herbicides would be applied according to label restrictions; 1 week annually			

Unit 2. Combination overstory thinning/precommercial thinning:

- Suppressed overstory trees (greater than 5 inches DBH) would be removed around dominant/codominant overstory trees. Crown health would be the primary consideration for removal. Trees with thinning crowns and low crown ratios (less than 30% live crown) would be removed to favor trees with dense crowns and higher crown ratios. Ponderosa pine would be favored to leave over Douglas-fir. Overstory trees would be retained in a clumpy, variable pattern to maintain the natural character of the stand. The average density would be approximately 70 basal area per acre (BA). Snags; trees with visible nesting cavities; and trees with dead, deformed, or multiple tops would be retained for their value as wildlife trees.

- Understory trees (less than 5 inches DBH) would be cut similarly to overstory trees. Suppressed trees with low crown ratios would be cut and vigorous young trees with high crown ratios would be retained.

Unit 3. Precommercial thinning:

Understory trees (less than 8 inches DBH) would be removed below the dripline of overstory trees and would be thinned to a variable spacing in canopy gaps. Ponderosa pine would be favored over Douglas-fir. In general, the largest trees (greatest DBH, tallest) with the highest crown ratio would be retained and relatively smaller trees with lower crown ratios would be cut. The average density would be approximately 100 trees per acre with higher retention in draws and easterly aspects and lower retention on westerly aspects. No cut buffers of varying widths (depending on the existing density of trees) would be utilized adjacent to trails to create visual screening for wildlife security. Overstory trees (greater than 8 inches DBH) would not be cut.

Unit 4. Precommercial thinning:

Understory trees (less than 8 inches DBH) would be removed below the dripline of overstory trees and would be thinned to a variable spacing in canopy gaps. Ponderosa pine would be favored over Douglas-fir. In general, the largest trees (greatest DBH, tallest) with the highest crown ratio would be retained and relatively smaller trees with lower crown ratios would be cut. The average density would be approximately 200 trees per acre with higher retention in draws and easterly aspects and lower retention on westerly aspects. No cut buffers of varying widths (depending on the existing density of trees) would be utilized adjacent to trails to create visual screening for wildlife security. Overstory trees (greater than 8 inches DBH) would not be cut.

General Guidance

1. Wildlife habitat comes first.
2. Components of wildlife habitat to be left untreated (if existing) or recruited (if not existing) are: coverage of aspen and upland willow, big trees (living and snag recruits), and dense forest cover on north aspects or in the steeper draws.
3. Thinning patterns would result in an irregular mosaic with relatively short sight distances.
4. Designated cut-trees would be marked or cut by description, under careful monitoring by the FWP Forester and other staff.
5. To the extent possible, burn piles would be located in openings within treated stands where little ground cover currently exists to minimize impacts to native rangeland.
6. To minimize soil impacts, timber harvest would occur under relatively dry, frozen, or snow-covered conditions.
7. FWP would require contractors to post signage while activities are ongoing and coordinate activities with the US Forest Service and City of Missoula to minimize impacts to trail users and recreationists.
8. Operations would be avoided during periods of high bird-nesting activity (April 15 through July 1).
9. Timber harvest would comply with Montana Forestry Best Management Practices (BMPs) and the Montana Streamside Management Zone law.
10. Control of noxious weeds would be included as part of the treatments.

9. Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:

Alternative A: No Action

If FWP decides not to proceed with the proposed action, forest habitat restoration treatments on the Mount Jumbo WMA would not occur at this time. Elk and deer winter-range would continue to experience forest succession, which would trend towards increasing forest canopy coverage, stressing water resources and shading out important grasses and deciduous vegetation. Hazardous fuels would continue to build up in the wildland urban interface, which would increase the susceptibility of the forest to stand-replacement fire. There would be a decreased probability of recruiting/maintaining a mature overstory as competition for limited resources (sunlight, water, and nutrients) increases through time and the overstory trees becomes more susceptible to succumb to drought stress, bark beetles, and/or crown fire. Potential of increasing habitat diversity would be limited and may decrease without promotion of a mature overstory.

Alternative B: Proposed Action

Conduct forested habitat improvement treatments on approximately 100 acres of the Mount Jumbo WMA as described in #8 (Narrative Summary), above. Following this action, FWP anticipates that important ungulate winter range condition would improve due to increased grass and woody browse recruitment. Habitat diversity would be expected to increase at the stand-level and across the larger landscape, providing habitat niches for a wide range of game and nongame wildlife. Hazardous fuels in the wildland urban interface would be reduced, decreasing the susceptibility of the proposed treatment units to stand-replacement fire.

PART II. ENVIRONMENTAL REVIEW CHECKLIST

1. Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

1. <u>LAND RESOURCES</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?			X		Yes	1.b
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other (list)		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (attach additional pages of narrative if needed):

1.b. Minor soil impacts are expected where mechanized equipment operates off roads and where slash accumulations are burned. These impacts would be concentrated on skid trails and slash pile burn scars which is expected to be a small proportion of the area treated. To minimize these impacts, FWP would require mechanized equipment operating off-roads to comply with Montana Forestry BMPs and only operate under relatively dry, frozen or snow-covered conditions. Where vegetation is displaced, grass seed would be applied to prevent soil erosion.

2. <u>AIR</u> Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))			X		Yes	2.a
b. Creation of objectionable odors?			X		Yes	2.b
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. For P-R/D-J projects, will the project result in any discharge which will conflict with federal or state air quality regs? (Also see 2a)		X				
f. Other		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Air Resources (attach additional pages of narrative if needed):

2.a, b. Much of the slash and residual byproduct generated during the course of the proposed treatments would be burned on-site. Broadcast burning would also generate smoke and have the potential to affect air quality. The duration of these combined activities is expected to be approximately 2 weeks spread over 1 to 3 years. FWP would comply with Airshed 3a smoke management restrictions, Missoula County open burning timing restrictions, and comply with inter-agency slash treatment regulations.

3. <u>WATER</u>	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?		X				
b. Changes in drainage patterns or the rate and amount of surface runoff?			X		Yes	3.b
c. Alteration of the course or magnitude of flood water or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. For P-R/D-J, will the project affect a designated floodplain? (Also see 3c)		X				
m. For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a)		X				
n. Other:						

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Water Resources (attach additional pages of narrative if needed):

3.b. No streams are located within or adjacent to the proposed treatment units. Treating the subject stands may slightly alter the rate and volume of spring runoff and retained snowpack. Given the limited scale of the project and condition of adjacent stands, this effect is expected to be minor.

4. VEGETATION Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X		Yes	4.a
b. Alteration of a plant community?			X		Yes	4.b
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?			X		Yes	4.e
f. For P-R/D-J, will the project affect wetlands, or prime and unique farmland?		X				
g. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Vegetation (attach additional pages of narrative if needed):

4.a, b, e. The project intent is to restore and diversify vegetation to benefit wildlife habitat condition. The proposed action would reduce conifer density thereby reducing shading and moisture stress for grasses, shrubs, and forbs in the project area. Please see #8 above for a more detailed description of proposed treatments. Noxious weed spread would be mitigated by requiring equipment to be washed before entering the WMA, minimizing ground disturbance, immediately reseeding disturbed areas, and treating weeds in affected area indefinitely through annual weed management efforts.

5. FISH / WILDLIFE	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X			5.b
c. Changes in the diversity or abundance of nongame species?			X			5.c
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?			X			5.g
h. <u>For P-R/D-J</u> , will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f)		X				
i. <input type="checkbox"/> <u>For P-R/D-J</u> , will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d)		X				
j. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Fish and Wildlife:

5.b, c, g:

Near-term: Some wildlife would be temporarily displaced from the project area while treatments are ongoing. Large and mobile species would likely move to secure, adjacent habitat. Treatments would occur either the summer/fall (July 1 through October 11) after bird nesting activity has been completed or winter before bird nesting activity starts (December 1 through March 15). Any observed active nests would be left undisturbed until nesting is completed. Winter treatments may attract deer and elk to feed on the felled tops.

Long-term: The combination of thinning and clump retention would result in a redistribution of thermal/security cover for big game, which may result in temporary increases to hunter harvest mortality in various areas of the WMA, however due to the small size of the WMA any effect is likely to be negligible and elk are not often present during the hunting season. However, the overall effect would be to retain stands for security while improving understory forage quality, thus mitigating negative effects to elk survival over the long term. More large trees would be recruited over time and would grow larger to provide thermal cover, nesting sites and roosting sites for wildlife, and would eventually develop a greater snag component. Within two years following treatment (after slash treatment activities) the forest would be more resistant to stand-replacement fire, would be more likely to benefit from burns, and the existing potential threat of decades-long habitat loss due to uncharacteristic stand-replacement would be lessened.

B. HUMAN ENVIRONMENT

6. <u>NOISE & ELECTRICAL EFFECTS</u>	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Increases in existing noise levels?			X		No	6.a
b. Exposure of people to severe or nuisance noise levels?			X		No	6.b
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				
e. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Noise/Electrical Effects (attach additional pages of narrative if needed):

6.a, b. Logging and trucking equipment would increase noise levels on the project area while activities are ongoing. Users will be subjected to noise if recreating in the area while equipment is operating. FWP would require the contractor to place signage on roads and trails to alert users to activities occurring in the area. The duration of this activity is expected to occur for 7 to 8 weeks over the course of 1 to 2 years. FWP would coordinate these treatments with the US Forest Service and City of Missoula in order to minimize the duration of these activities.

7. <u>LAND USE</u>	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?			X		No	7.c
d. Adverse effects on or relocation of residences?		X				
e. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Use (attach additional pages of narrative if needed):

7.c. Several maintained trails occur within the proposed treatment units and the area is popular for hiking and mountain biking from May 1 through December 1. Short-term closures of trails and/or rerouting users would be required during mechanized operations and prescribed burning. The duration of this activity is expected to occur for 2 to 3 weeks over the course of 1 to 2 years. FWP would coordinate these activities with the US Forest Service and City of Missoula to minimize the duration of these activities. FWP would require contractors to use signage to alert users to closures and detours.

8. <u>RISK / HEALTH HAZARDS</u>	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?			X		Yes	8.a
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?			X		Yes	8.c
d. For P-R/D-J, will any chemical toxicants be used? (Also see 8a)		X				
e. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Risk/Health Hazards (attach additional pages of narrative if needed):

8.a. Fluid spills or leaks from heavy equipment brought in to conduct the proposed treatments have the potential to result in release of hazardous substances. To minimize this risk, FWP would conduct inspections of the contractor's equipment prior to move-in to ensure no leaks are present and would continue to inspect equipment regularly while operations are ongoing. FWP also contractually requires its contractors to abide by state laws regarding spill reporting and clean-up.

8.c. Timber management activities are inherently dangerous. All contractors would be required to comply with federal and state safety standards for logging operations as established by the United States Department of Labor, Occupational Safety and Health Administration (OSHA; 29 Code of Federal Regulations 1910 and any other such applicable regulations promulgated by OSHA) and as required by Title 50, Chapter 71 of the Montana Code Annotated, and any regulations promulgated to implement the statutes found in that Title and Chapter of the Montana Code Annotated.

9. <u>COMMUNITY IMPACT</u>	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?			X		N/A	9.c.
d. Changes in industrial or commercial activity?			X		N/A	9.d.
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?			X		Yes	9.e
f. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Community Impact (attach additional pages of narrative if needed):

9.c, d, e. Jobs would be created or sustained by project work while the project is ongoing. Log hauling and contractor traffic would increase during the project. Roads and other infrastructure that would be used by contractors were designed (and would be maintained) to support commercial logging and log transport activities. Signage would be placed near trailheads and the entrance of the WMA to alert recreationists of logging activity. According to the Montana Bureau of Business and Economic Research (Sorenson et al. 2016), the harvest of a million board-feet of timber equates to roughly 10 direct jobs (in forestry, logging, wood and paper product manufacturing, and forestry support activities) annually.

10. PUBLIC SERVICES/TAXES/UTILITIES	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				10.b
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				10.d
e. Define projected revenue sources		X				10.e
f. Define projected maintenance costs.		X				10.f
g. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Public Services/Taxes/Utilities (attach additional pages of narrative if needed):

10.b, d. The Project would be expected to increase state and local tax revenues from the sale of fuel, supplies and/or equipment and from contractor employees' income. Fuel and electricity would be required to treat stands and process the timber byproduct.

10.e. This project is not expected to generate revenue; however, merchantable byproducts removed may help defray the cost of treatments.

10.f. Post-treatment maintenance costs would be incurred for slash disposal and noxious weed treatments. FWP would provide funding for maintenance costs from its Forest Management Account.

11. <u>AESTHETICS / RECREATION</u>	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?			X		Yes	11.a
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings?			X		Yes	11.c
d. For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c)		X				
e. Other:		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Aesthetics/Recreation (attach additional pages of narrative if needed):

11.a. Removal of dense conifer stands may be evident from various locations in the valley. Harsh edges around treatment areas are not expected since the treatments would blend into adjacent thinned forest stands. Treatments will maintain the existing character of the Sound of Music trail, which passes through the WMA.

11.c. Several maintained trails occur within the proposed treatment units and the area is popular for hiking and mountain biking from May 1 through December 1. Short-term closures of trails and/or rerouting users would be required during mechanized operations and prescribed burning. FWP would coordinate these activities with the US Forest Service and City of Missoula to minimize the duration of these activities. FWP would require contractors to use signage to alert users to closures and detours.

12. <u>CULTURAL / HISTORICAL RESOURCES</u>	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
Will the proposed action result in:						
a. Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. For P-R/D-J, will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a)						12.d
e. Other:						12.e

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Cultural/Historical Resources (attach additional pages of narrative if needed):

12.d, e. FWP consulted with the State Historic Preservation Office (SHPO). A file records search identified a few historic sites nearby but SHPO determined that there was a low likelihood that cultural properties would be impacted by this project and that a cultural resource inventory was unwarranted at this time. If cultural properties were to be discovered during project implementation, FWP would cease activities, contact SHPO, and potentially adjust the project design to avoid impacting these resources.

SIGNIFICANCE CRITERIA

13. SUMMARY EVALUATION OF SIGNIFICANCE Will the proposed action, considered as a whole:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)			X			13.a
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e)		X				
g. For P-R/D-J, list any federal or state permits required.		X				

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Significance Criteria (attach additional pages of narrative if needed):

13.a. This project would improve ungulate habitat conditions, restore historic forest characteristics, and reduce susceptibility of the subject stands to high-severity wildfire on and adjacent to the MJWMA. Treatments may improve habitat diversity at the stand as well as the larger landscape level. Work proposed in this EA may compliment similar forestry work on adjacent lands, but FWP does not anticipate any cumulative negative impacts to result if this project were completed.

PART III. NARRATIVE EVALUATION AND COMMENT

FWP proposes to conduct forest habitat treatment on approximately 100 acres of the Mount Jumbo WMA, in Missoula County. If approved by the Montana Fish and Wildlife Commission, the work would begin as early as late-October 2020. The objectives of the project are to increase forage potential on elk and deer winter range, promote stand conditions that would allow fire to burn at low-severity appropriate for the habitat type, and reduce fuel loading in the wildland urban interface. FWP expects this project to benefit elk and deer winter range foraging potential, a variety of nongame wildlife including Species of Concern (MFWP 2015) that are dependent on old-growth ponderosa pine stands, fire suppression efforts in the event of a wildfire, the local timber industry, and compatible public-use opportunities. Adverse impacts to the physical and human environment are expected to be minor and temporary while the positive impacts are expected to be substantial and prolonged. The purpose is to improve wildlife habitat; this project would not be proposed if not for a need to conserve and improve wildlife habitat on the WMA.

PART IV. PUBLIC PARTICIPATION

1. Describe the level of public involvement for this project if any, and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?

The public would be notified as follows, to comment on the proposed Mount Jumbo WMA Forest Habitat Restoration Project, including its draft EA and alternatives:

- A news release would be prepared and distributed to a standard list of media outlets interested in FWP Region 2 issues. This news release would also be posted on FWP Region 2's website <http://fwp.mt.gov/regions/r2/>.
- A legal notice would be published in the *Independent Record* (Helena) and *Missoulian* newspapers.
- Copies would be available at the FWP Region 2 Headquarters in Missoula and the FWP State Headquarters in Helena.
- Copies of this environmental assessment would be mailed (or notification of its availability emailed) to neighboring landowners and other interested parties (individuals, groups, agencies) to assure their knowledge of the Proposed Action.
- Public notice on FWP's webpage: <http://fwp.mt.gov> ("News," then "Recent Public Notices"). The Draft EA would also be available on this website, along with the opportunity to submit comments online.

Copies of this EA may be obtained by mail from Region 2 FWP, 3201 Spurgin Rd., Missoula MT, 5980; by phoning 406-542-5540; by emailing shrose@mt.gov; or by viewing FWP's website <http://fwp.mt.gov> under Public Notices.

This level of public notice and participation is appropriate for a project of this scope having few physical and human impacts, many of which can be mitigated.

2. Public Comment Period

The public comment period will extend for thirty (30) days beginning July 27, 2020. Comments must be received by FWP no later than August 25, 2020 and can be mailed to the address below:

Region 2 FWP
Attn: Mount Jumbo Forest EA
3201 Spurgin Rd
Missoula, MT 59804

or emailed to Sharon Rose at shrose@mt.gov

PART V. EA PREPARATION

**1. Based on the significance criteria evaluated in this EA, is an EIS required? (YES/NO)?
If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.**

No. Based upon the above assessment which has identified a limited number of minor impacts to the physical and human environment that would be either for a short duration or can be mitigated below the level of significance, an EIS is not required and an environmental assessment is the appropriate level of review.

2. Name, title, address and phone number of the person(s) responsible for preparing the EA:

Liz Bradley, Missoula Area Wildlife Biologist
Montana Fish, Wildlife & Parks; Region 2
3201 Spurgin Rd, Missoula, MT 59804
(406) 542-5515

Torrey Ritter, Region 2 Nongame Biologist
Montana Fish, Wildlife & Parks; Region 2
3201 Spurgin Rd, Missoula, MT 59804
(406) 542-5551

R. Jason Parke, Forester
Montana Fish, Wildlife & Parks
P.O. Box 200701, Helena, MT 59620
(406) 444-7329

3. List of entities consulted during preparation of the EA: None.

REFERENCES CITED

Fischer, W. C., and A. F. Bradley. 1987. Fire ecology of western Montana forest habitat types. USDA Forest Service, Intermountain Forest and Range Experiment Station, Research Paper, INT-223.

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